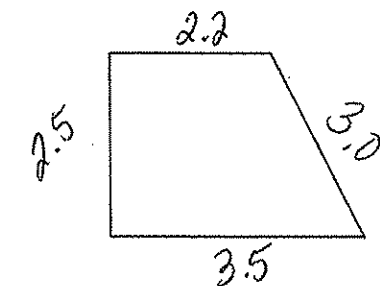


APPLICATIONS OF PERIMETER AND AREA

Name Key

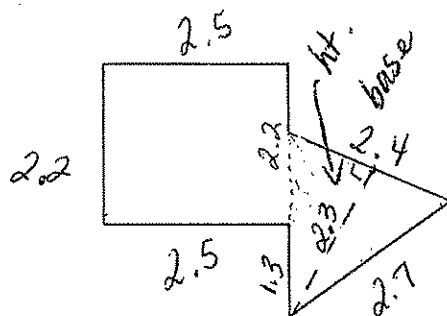
Day 7-1
Practice problems

1. Find the area and perimeter of each figure below. Measure in centimeters.



$$P = 11.2 \text{ cm}$$

$$A = \frac{2.2 + 3.5}{2} \times 2.5 = 7.125 \text{ cm}^2$$



$$P = 15.8 \text{ cm}$$

$$A = \square 2.5 \times 2.2 = 5.5$$

$$\triangle \frac{2.4 \times 2.5}{2} = 2.76$$

$$8.26 \text{ cm}^2$$

2. Carlos paid \$8.99 for a large pizza (16-inch diameter). Tameka bought two rectangular pan pizzas, each of which measured 11 inches by 13 inches. She paid a total of \$10.99 for the two pizzas. Which pizza is the better buy based on the number of square inches per pizza?

$$A = 3.14 \times 8^2 = 200.96$$

$$8.99 \div 200.96 = \$0.044/\text{in}^2$$

$$2(11 \times 13) = 286 \text{ in}^2$$

$$10.99 \div 286 \text{ in}^2 = 0.038$$

$$0.04 \text{ in}^2$$

3. Plastic edging for flower beds comes in 50-foot rolls and costs \$6.85 per roll. What is the cost to completely edge two rectangular flower beds 40 feet by 15 feet and one circular flower bed 16 feet in diameter?

$$P = 2(40 + 15) = 110$$

$$\text{Total } P = 2(110) = 220 \text{ ft}$$

$$220 \div 50 = 4.4 \text{ need 5 rolls}$$

$$\begin{array}{r} 6.85 \\ \times 5 \\ \hline \$34.25 \end{array}$$

4. The area of a square is 196 square meters. If one-half of the perimeter of the square is the same as the perimeter of a regular pentagon, what is the length of one side of the pentagon?

$$\text{side} = 14 \text{ m} \quad P = 14 \times 4 = 56 \text{ m} \quad 56 \div 2 = 28 \quad 28 \div 5 = 5.6 \text{ m}$$

5. Which has the smallest area, a circle with a diameter of 3 yards, a triangle with a base of 20 feet and a height of 11 feet, or a square with a side of 10.5 feet?

$$\bigcirc A = 3.14 \times 1.5^2 = 7.065 \text{ yd}^2$$

$$\triangle = \frac{20 \times 11}{2} = 110 \text{ ft}^2$$

$$\square = 10.5 \times 10.5 = 110.25 \text{ ft}^2$$

6. Mr. Evans is going to replace the carpet in his family room. The dimensions of the room are 22.5 feet by 26.5 feet. If the cost of the carpet, pad and installation is \$28.75 per square yard, what will be the total cost excluding tax?

$$22.5 \times 26.5 = 596.25 \text{ ft}^2 \quad \div 9 = 66.25 \text{ yd}^2$$

$$\times 28.75$$

$$\$1,904.69$$

7. One pipe has a 1.25 centimeter diameter. A second pipe has a two and on-half centimeter diameter. What is the difference in the area of the openings of the two pipes?

$$A = 3.14 \times (0.625)^2 = 1.226$$

$$A = 3.14 \times (1.25)^2 = 4.906$$

$$\begin{array}{r} 4.906 \\ - 1.226 \\ \hline 3.680 \end{array}$$

8. An eight in. diameter pizza costs \$6.95. Kate asserts that a 16-inch diameter pizza (same toppings, same crust) should cost \$13.90. Explain her reasoning and determine if this is a fair price. If not, what would be a fair price?

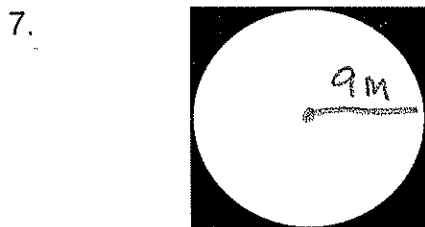
$$A = 3.14 \times 4^2 = 50.24 \text{ in}^2 = \$0.14/\text{in}^2$$

$$A = 3.14 \times 8^2 = 200.96 \rightarrow \$0.07/\text{in}^2$$

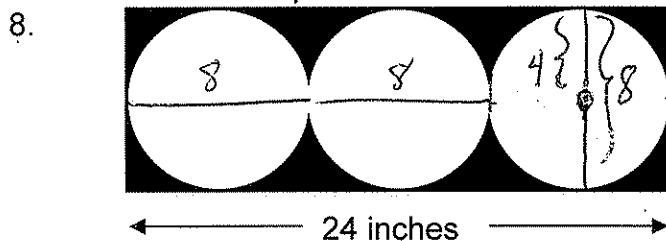
Kate thinks since the diameter is double, then the price should double.

Area is 4 times more so for retailer could charge \$28! Maybe not?

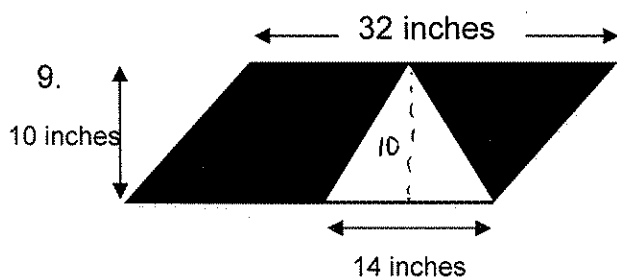
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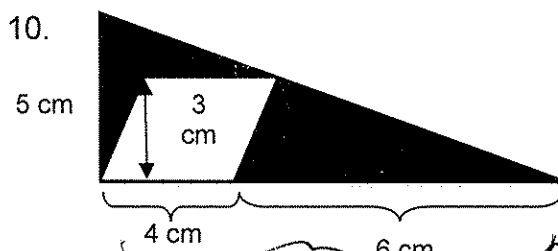
18 meters
Area of square: $18^2 = 324$
Area of circle: $3.14 \cdot 9^2 = 254.34$
Area of shaded region: 69.66 m^2



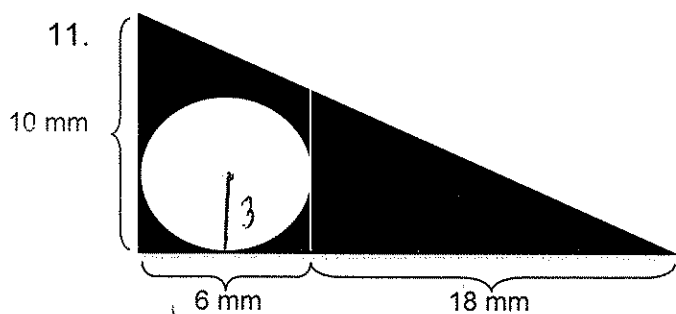
Area of rectangle: $24 \cdot 8 = 192$
Area of circles: $(3.14 \cdot 4^2) 3 = (50.24)(3) = 150.72$
Area of shaded region: 41.28 in^2



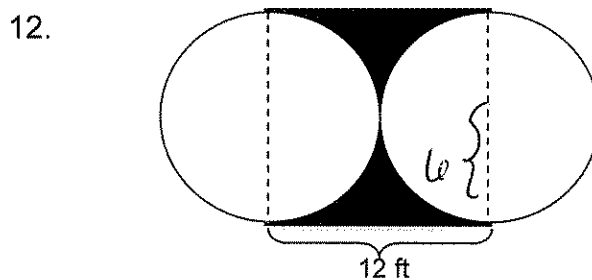
Area of parallelogram: $32 \times 10 = 320$
Area of triangle: $\frac{14 \cdot 10}{2} = 70$
Area of shaded region: 250 in^2



Area of triangle: $\frac{5 \cdot 10}{2} = 25$
Area of parallelogram: $3 \cdot 4 = 12$
Area of shaded region: 13 cm^2



Area of triangle: $24 \cdot \frac{1}{2} (24 \cdot 10) = 120$
Area of circle: $3.14 \cdot 3^2 = 28.26$
Area of shaded region: 91.74 mm^2



Area of Square: $12^2 = 144$
Area of Semi Circles: $3.14 \cdot 6^2 = 113.04$
Area of shaded region: 30.96 ft^2